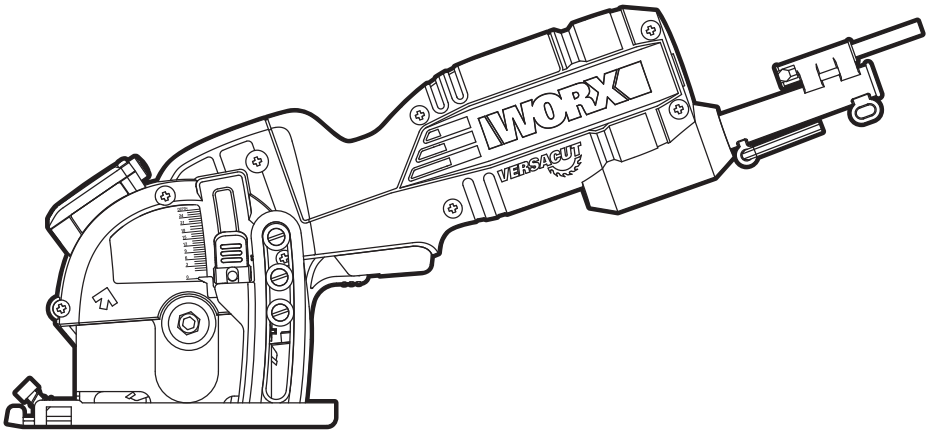
WORX®



SAFETY AND OPERATING MANUAL

Mini-circular saw **WX420**

GENERAL POWER TOOL SAFETY WARNINGS

WARNING! Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE.

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

1 WORK AREA SAFETY

a) Keep work area clean and well lit. Cluttered or dark areas invite accidents.

b) Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.

c) Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

2 ELECTRICAL SAFETY

a) Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.

b) Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.

c) Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.

d) Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.

e) When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.

f) If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply. Use of an RCD reduces the risk of electric shock.

3 PERSONAL SAFETY

a) Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.

b) Use personal protective equipment. Always wear eye protection. Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

c) Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.

d) Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

e) Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.

f) Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.

g) If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use

of these devices can reduce dust-related hazards.

4 POWER TOOL USE AND CARE

a) Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.

b) Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.

c) Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.

d) Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.

e) Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.

f) Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

g) Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from those intended could result in a hazardous situation.

5 SERVICE

a) Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

SAFETY INSTRUCTIONS FOR ALL SAWS

a) DANGER: Keep hands away from cutting area and the blade. Keep your second hand on auxiliary handle, or motor housing . If both hands are holding the saw, they cannot be cut by the blade.

b) Do not reach underneath the workpiece. The guard cannot protect you from the blade below the workpiece.

c) Adjust the cutting depth to the thickness of the workpiece. Less than a full tooth of the blade teeth should be visible below the workpiece.

d) Never hold piece being cut in your hands or across your leg. Secure the workpiece to a stable platform. It is important to support the work properly to minimize body exposure, blade binding, or loss of control.

e) Hold power tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will also make exposed metal parts of the power tool "live" and shock the operator.

f) When ripping always use a rip fence or straight edge guide. This improves the accuracy of cut and reduces the chance of blade binding.

g) Always use blades with correct size and shape (diamond versus round) of arbour holes. Blades that do not match the mounting hardware of the saw will run eccentrically, causing loss of control.

h) Never use damaged or incorrect blade washers or bolt. The blade washers and bolt were specially designed for your saw, for optimum performance and safety of operation.

FURTHER SAFETY INSTRUCTIONS FOR ALL SAWS

Kickback causes and related warnings:

— Kickback is a sudden reaction to a pinched, bound or misaligned saw blade, causing an uncontrolled saw to lift up and out of the workpiece toward the operator;

— When the blade is pinched or bound tightly by the kerf closing down, the blade stalls and the motor reaction drives the unit rapidly back toward the operator;

— If the blade becomes twisted or misaligned in the cut, the teeth at the back edge of the blade can dig into the top surface of the wood causing the blade to climb out of the kerf and jump back toward the operator.

Kickback is the result of saw misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.

a) Maintain a firm grip with both hands on the saw and position your arms to resist kickback forces. Position your body to either side of the blade, but not in line with the blade. Kickback could cause the saw to jump backwards, but kickback forces can be controlled by the operator, if proper precautions are taken.

b) When blade is binding, or when interrupting a cut for any reason, release the trigger and hold the saw motionless in the material until the blade comes to a complete stop. Never attempt to remove the saw from the work or pull the saw backward while the blade is in motion or kickback may occur. Investigate and take corrective actions to eliminate the cause of blade binding.

c) When restarting a saw in the workpiece, centre the saw blade in the kerf and check that saw teeth are not engaged into the material. If saw blade is binding, it may walk up or kickback from the workpiece as the saw is restarted.

d) Support large panels to minimise the risk of blade pinching and kickback. Large panels tend to sag under their own weight. Supports must be placed under the panel on both sides, near the line of cut and near the edge of the panel.

e) Do not use dull or damaged blades. Unsharpened or improperly set blades produce narrow kerf causing excessive friction, blade binding and kickback.

f) Blade depth and bevel adjusting locking levers must be tight and secure before making cut. If blade adjustment shifts while cutting, it may cause binding and kickback.

g) Use extra caution when making a "plunge cut" into existing walls or other blind areas. The protruding blade may cut objects that can cause kickback.

SAFETY INSTRUCTIONS FOR PLUNGE TYPE SAW

Guard function

a) Check guard for proper closing before each use. Do not operate the saw if guard does not move freely and enclose the blade instantly. Never clamp or tie the guard with the blade exposed. If saw is accidentally dropped, guard may be bent. Check to make sure that guard moves freely and does not touch the blade or any other part, in all angles and depths of cut.

b) Check the operation and condition of the guard return spring. If the guard and the spring are not operating properly, they must be serviced before use. Guard may operate sluggishly due to damaged parts, gummy deposits, or a build-up of debris.

c) Assure that the guide plate of the saw will not shift while performing the "plunge cut" when the blade bevel setting is not at 90°. Blade shifting sideways will cause binding and likely kick back.

d) Always observe that the guard is covering the blade before placing saw down on bench or floor. An unprotected, coasting blade will cause the saw to walk backwards, cutting whatever is in its path.

Be aware of the time it takes for the blade to stop after switch is released.

ADDITIONAL SAFETY RULES FOR YOUR CIRCULAR SAW

a) Only use saw blades recommended in the specification.
b) Do not use any abrasive wheels.

GENERAL SAFETY WARNINGS FOR YOUR LASER

WARNING: Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in serious injury.

Save all warnings and instructions for future reference.

These lasers do not normally present an optical hazard although staring at the beam may cause flash blindness.

Do not stare directly at the laser beam. A hazard may exist if you deliberately stare into the beam, please observe all safety rules as follows:

a) The laser shall be used and maintained in accordance with the manufacturer's instructions.
b) Never aim the beam at any person or an object other than the work piece.
c) The laser beam shall not be deliberately aimed at another person and shall be prevented from being directed towards the eye of a person for longer than 0.25 seconds area.
d) Always ensure the laser beam is aimed at a sturdy work piece without reflective surfaces, e.g. wood or rough-coated surfaces are acceptable. Bright shiny reflective sheet steel or similar is not suitable for laser applications as the reflective surface may direct the laser beam back at the operator.
e) Do not change the laser device with a different type. The manufacturer or an authorized agent must carry out repairs.
f) CAUTION: Use of controls or adjustments other than those specified herein may result in hazardous radiation exposure.

Additional safety warning for class 2 laser

The laser device fitted to this tool is class 2 with a maximum radiation of 1mW and 650nm wavelength.
CLASS 2 LASER RADIATION,DO NOT STARE INTO BEAM

SYMBOLS

To reduce the risk of injury, user must read instruction manual.

Warning

Double insulation

Wear eye protection

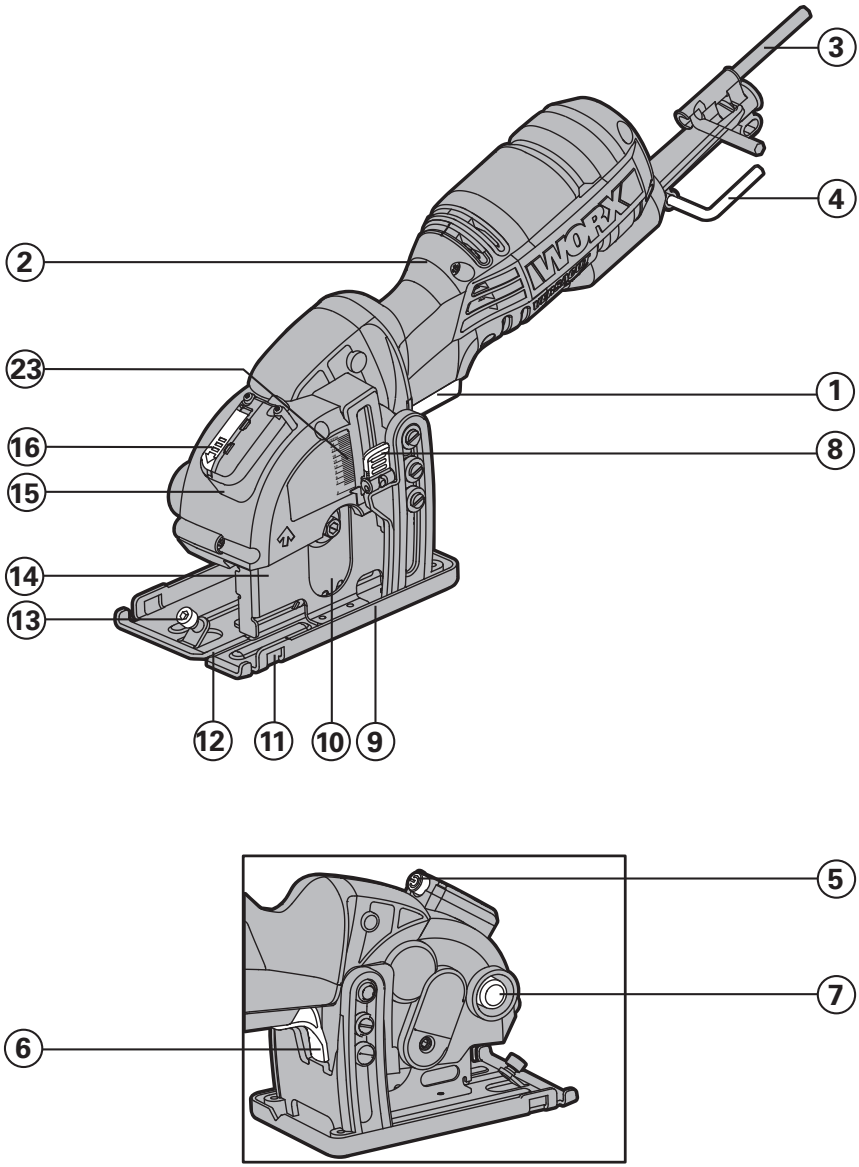
Wear ear protection

Wear dust mask

Laser radiation

Do not stare into beam

RCM marking
N5112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1. ON/OFF SWITCH
2. SOFT GRIP HANDLE
3. LARGE L SPANNER/ALLEN KEY
4. SMALL L SPANNER/ALLEN KEY
5. LASER ON-OFF SWITCH
6. LOCK OFF SWITCH
7. DUST EXTRACTION OUTLET
8. DEPTH OF CUT ADJUSTMENT AND LOCK LEVER
9. BASE PLATE
10. SAW BLADE
11. PARALLEL GUIDE FIXTURE
12. BLADE ALIGNMENT INDICATOR
13. PARALLEL GUIDE CLAMPING SCREW
14. PROTECTIVE BLADE GUARD
15. LASER GUIDE
16. BATTERY STORAGE COVER
17. SPINDLE CLAMPING SCREW (See Fig. C)
18. BLADE CLAMPING WASHER (See Fig. C)
19. PARALLEL GUIDE (See Fig. D)
20. VACUUM ADAPTER (See Fig. E)
21. PLASTIC BASE PLATE COVER (See Fig. F1)
22. LASER BATTERIES (TWO) (See Fig. J3)
23. DEPTH OF CUT INDICATOR

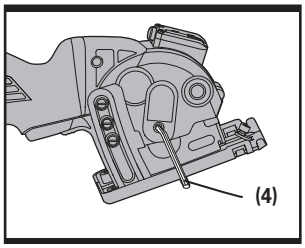
TECHNICAL DATA

Voltage	230-240V~50Hz
Power input	400W
No load speed	3500/min
Blade size	85mmx15mm
Max cutting depth	27mm
Laser battery model no.	LR44 1.5V
Protection class	⧈/II
Machine weight	1.5kg

ACCESSORIES

TCT 24T blade	**1**
Diamond disc	**1**
HSS 44T blade	**1**
V base	**1**
Parallel guide	**1**
Vacuum adaptor	**1**
Plastic base plate cover	**1**
Hex keys	**2**

We recommend that you purchase your accessories from the same store that sold you the tool. Use good quality accessories with a well-known brand name. Choose the type according to the work you intend to undertake. Refer to the accessory packaging for further details. Store personnel can assist you and offer advice.



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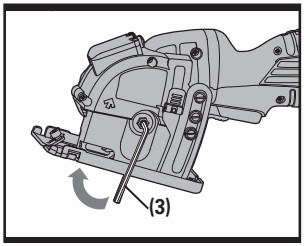

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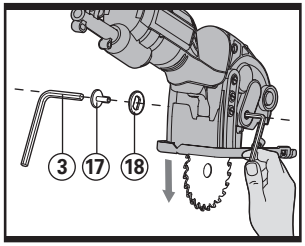

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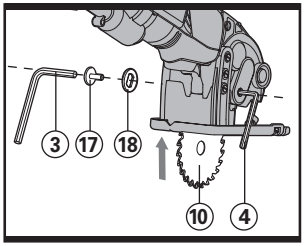


C

OPERATING INSTRUCTIONS

NOTE: Before using the tool, read the instruction book carefully.

INTENDED USE

The machine is intended for ripping and cross-cutting wood and other materials in straight cutting lines, while resting firmly on the work piece.

ASSEMBLY

1. INSTALL /CHANGE THE BLADE

WARNING:

- **Before any work on the machine itself, unplug the saw.**
- **Wear protective gloves when mounting the saw blade.** Danger of injury when touching the saw blade.
- **Only use saw blades that correspond with the characteristic data given in the operating instructions.**
- **Do not use grinding discs on this cutting tool under any circumstances.**

1) Insert the small "L" spanner(4) into the center bolt hole on the back of the spindle assembly. (See Fig. A)
2) Place the large "L" spanner (3) into the blade spindle clamping screw (17) , while keeping the small "L" spanner in the center bolt hole on the back of the spindle assembly.Turn the large "L" spanner clockwise while holding the small "L" spanner stationary. Remove the screw (17) and the blade clamping washer (18). After the washer is removed, slide the blade off the spindle and through the blade slot at the bottom of the saw. (See Fig. B1, B2)
3) Clean the replacement saw blade and all the clamping parts to be assembled. Slide the saw blade up through the slot and fit it onto the inner spindle. Assemble the blade clamping washer (18) and the spindle clamping screw (17). Use the two spanners to tighten the spindle clamping screw thoroughly. (See Fig. C)

NOTE: The steps involved in changing the blade are the same as the steps used when installing the blade.

NOTE: Remove both spanners after the saw blade is tightly attached.

WARNING: When mounting, ensure that the cutting direction of the teeth (direction of arrow

on saw blade) and the direction-of-rotation arrow above the blade guard match.
NOTE: Never use a blade that is too thick to allow the blade clamping washer to engage with the flat side of the spindle.

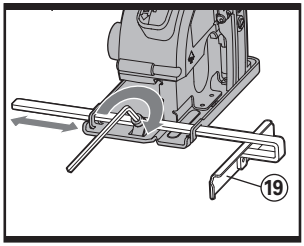
The table below gives you advice on how to choose correct blade.

Blade type	Cutting material
TCT 24T	Wood and aluminum
HSS 44T	Thin sheet steel and aluminum, PVC pipe, plastic
Diamond	Concrete, marble, tile , cement backerboard

Recommended maximum material thickness

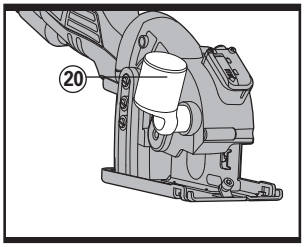
Wood	27mm
Aluminum	3mm
PVC pipe (radius)	13mm
Tile	8mm
Sheet steel	0.91mm(20 gauge)

2. PARALLEL GUIDE (See Fig. D)
The parallel guide is used for making cuts parallel to a work-piece edge at a chosen distance and can be used from either side of the base plate (9). Slide the parallel guide (19) arm through the fixture(11) to achieve the required cutting distance and tighten the clamping screw (13) with the small "L" spanner to lock into position. Do not over tighten. The parallel guide enables exact cuts along a workpiece edge and can also be used for cutting parallel strips.
NOTE: Since the parallel guide clamping screw is spring-loaded, the operator should take care when unscrewing it completely as to avoid losing the screw and spring.



D

3. SAWDUST REMOVAL (See Fig. E)
Your saw includes a vacuum adapter (20) that attaches to the dust extraction outlet (7) on the saw. This adapter port can be attached to a vacuum cleaner (sold separately). The use of the vacuum is strongly recommended as it keeps the work area clean, dramatically increases cut visibility and reduces airborne dust. It also keeps dust out of the working elements of the guard.



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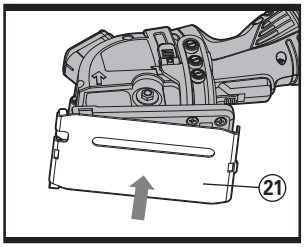
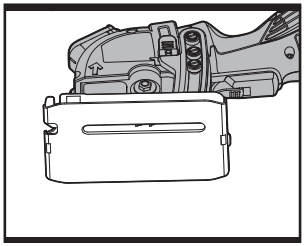


F1



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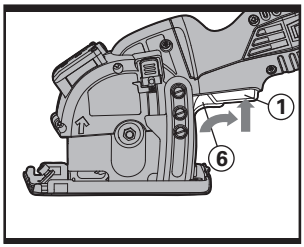

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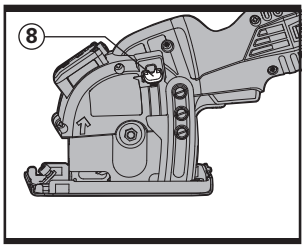


H1

NOTE: If using the saw without a vacuum attached, in some circumstances after lengthy operation, dust can accumulate at the rear of the base and prevent it from reaching full depth. You can prevent this by occasionally shaking the dust out.

4. PLASTIC BASE PLATE COVER (See Fig. F1, F2)

Your saw includes a plastic base plate cover (21). Attach it to your saw's base when you are cutting work pieces that have delicate surfaces (finishes) such as vinyls, plastics, fiberglass, laminate flooring and tiles that could easily be scratched by the steel base.

OPERATION

1. TRIGGER SWITCH (See Fig. G)

The on/off switch is locked off to prevent accidental starting. In order to turn the machine on, depress and hold the lock off switch (6), then depress the on/off switch (1) and release the lock off switch. Your switch is now on. To switch off, just release the on/off switch.
NOTE: When the machine is not in use, the lock off switch rests against the blade guard in order to block the plunge function and prevent the blade from being exposed unnecessarily.

2. SET THE BLADE DEPTH

NOTE: The correct choice of cutting depth can improve ease of cutting and cut quality.
Always use the minimum cut depth that is required for your particular cut, which should just cut through the material plus a small allowance e.g. 3 mm.
Excessive cutting depth increases splintering in wood, chipping in tile and causes severe chatter in sheet steel and aluminum (which can quickly blunt the blade).
Maximum depth can be used when cutting internal cut-outs in wood as this reduces the overcutting required.

1) Determine the desired depth according to the thickness of the material plus a blade allowance of 1/8" (3 mm).
2) Unlock the depth of cut adjustment and lock lever (8). (See Fig. H1)
3) Slide the depth of cut indicator to the desired depth of cut. Lock down the depth of cut adjustment and lock lever (8). (See Fig. H2)

When plunge or pocket cutting into the middle (or interior) of the work piece, through the narrow slot, you can easily see the cutting mark you draw and the

location where the blade will plunge into the work piece, based on the blade depth that was selected. Always practice in a scrap work piece to become familiar with this cutting operation. The selected depth of cut is now set. When the saw's blade is manually lowered, the blade will be below the base at the selected depth.

3. USING THE LASER

The laser is used as a cutting guide and should form a red line on the material surface that is exactly aligned with the blade alignment indicator (12).
Press down the laser on/off switch (5) to turn on the laser. Press down the laser on/off switch again to turn off the laser. (See Fig. I)

NOTE: Clean the laser generator periodically.

WARNING: Never stare directly into the laser beam and never point the beam at anybody. The laser beam energy is extremely harmful to human eyes.

WARNING: When not in use, always turn the laser off to save the battery capacity.

TO REPLACE LASER BATTERIES (See Fig. J1-J6)

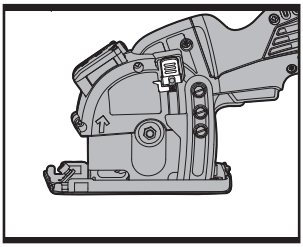
The saw comes with laser batteries well assembled. When battery capacity runs out, replace batteries as follows:
Use 1.5V batteries model LR44, typical to calculators, cameras and similar small electronics.
Move the battery storage cover (16) in the direction the arrow (on the cover) points. Then lift the battery storage cover (See Fig. J1, J2).
You can see one end of a cord. To remove the batteries, just slowly pull the end of the cord. The two batteries will be taken out along with the cord (See Fig. J3).
To fit new batteries, adjust the position of the cord and insert two batteries in place. Make sure two batteries are pressed on the cord (See Fig. J4, J5).
Restore the cover (See Fig. J6).

NOTE: Pay attention that "+/-" of the batteries are the same as the illustration on the machine.

4. CUTTING GUIDE (See Fig. K)

The blade alignment indicator (12) in the front of the base plate is used as a cutting guide. Always guide it along the cutting mark made on the workpiece for accurate cutting.

NOTE: It is best to carry out a trial cut.



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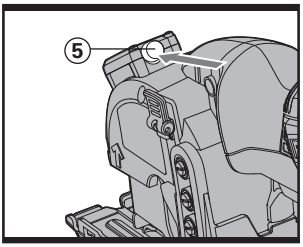

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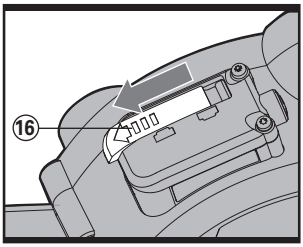
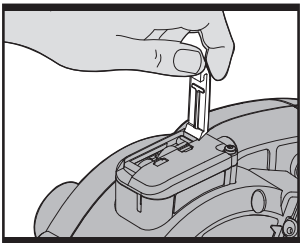


J1



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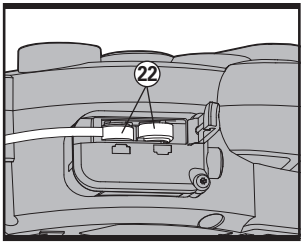

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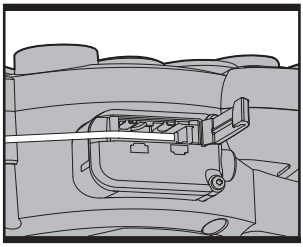

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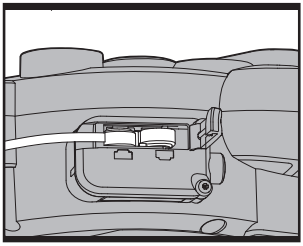

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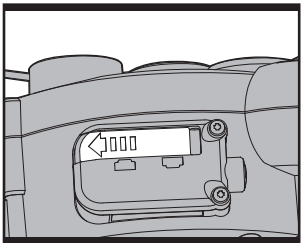


J6

FUNCTION

1. MAKING CROSS CUTS AND RIP CUTS (See Fig. L, M)

WARNING: To avoid sudden kick-back, never start a stationary blade while it is in contact with the work piece.

Always start the saw and allow it to reach full speed before commencing to plunge.

The blade teeth are exposed during this operation so proceed with extreme caution.

a) **ALWAYS** use your saw with your hands positioned correctly.

WARNING: Always maintain proper control of the saw to make sawing safer and easier. Loss of control of the saw could cause an accident resulting in possible serious injury.

b) When making cross or rip cuts, align your line of cut with the center of the "V" (blade alignment indicator), located on the front of the saw's base (See Fig. L).

c) Since the thickness of blades vary, make a trial cut in scrap material along your cut mark to determine how much, if any, you should offset the blade from the cut mark to allow for the blade thickness to get an accurate cut.

MAKING RIP CUTS (See Fig. M)

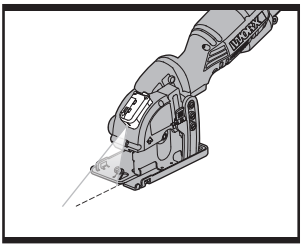
Always use a guide when making long rip cuts with your saw. You can use any suitable straight edge clamped to the work or the parallel guide that is included with your saw.

2. POCKET CUTTING (SOFT MATERIALS ONLY) (See Fig. N)

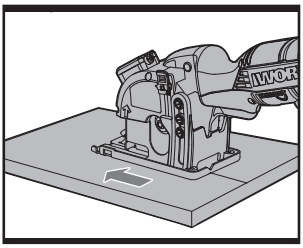
This operation requires much skill with a saw and must only be carried out by a qualified person.

Clearly mark the area to be cut. Set the depth of cut on the saw (See Fig. H1). Tilt the saw over the marked area with the front edge of the base plate resting on the work surface and the back edge lifted above the work surface. The cutting guide should be aligned with the line you have marked on your workpiece. With the saw still in the tilted position, apply pressure to the base plate so that the saw blade is fully exposed through the blade slot in the base plate (according to the depth of cut you have set). Ensure the blade is not touching but is close to the work surface. Hold the saw firmly while applying the least amount of pressure as possible on base plate. To avoid kickback, you should hold the tool

firmly before switching on the saw. Switch the saw on, wait for it to reach full speed, and gently guide the blade down into the material but maintain a pivoting force on the front edge of the base. Watch your cutting line by carefully looking through the front end of the blade slot.
DO NOT bind the blade in the cut; push the saw blade forward at a rate where the blade is not laboring. When the cut is complete, release the trigger safety release and switch and let the blade come to a complete stop. **DO NOT REMOVE** the saw and blade from the workpiece while the blade is moving. This could damage your cut (kerf), cause kickback and loss of control, resulting in injury.



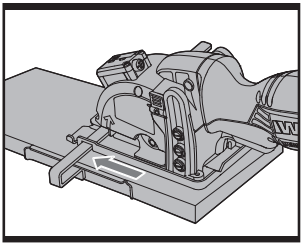
K



L

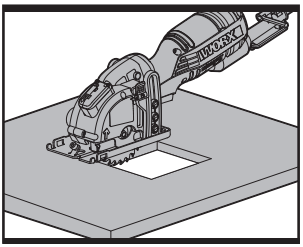
WORKING HINTS FOR YOUR TOOL

If your Versacut™ becomes too hot, please run your Versacut™ no load for 2-3 minutes to cool the motor. Avoid prolonged usage under strenuous cutting loads. Protect saw blades against impact and shock. Excessive feed significantly reduces the performance capability of the machine and reduces the service life of the saw blade. Sawing performance and cutting quality depend essentially on the condition and the tooth count of the saw blade. Therefore, use only sharp saw blades that are suited for the material to be worked.
Choice of blades: 24 teeth for general work, approx. 40 teeth for finer cuts, more than 40 teeth for very fine cuts into delicate surfaces, diamond for tile, cement board, etc.


M

MAINTAIN TOOLS WITH CARE

Remove the plug from the socket before carrying out any adjustment, servicing or maintenance.
Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged, have repaired by authorized service facility. Your power tool requires no additional lubrication or maintenance. There are no user serviceable parts in your power tool. Never use water or chemical cleaners to clean your power tool. Wipe clean with a dry cloth. Always store your power tool in a dry place. Keep the motor ventilation slots clean. Keep all working controls free of dust.
If the supply cord is damaged, it must be replaced by



N

the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
Periodically clear dust and chips from guard and base to ensure proper performance.

TROUBLESHOOTING

Symptom	Possible Causes	Possible Solution
Tool will not start when operating the on/off switch.	Power cord not plugged in. Power cord is broken. Carbon brush has worn down.	Check to make sure power cord is connected well into a working outlet. Unplug the power cord. Replace it using a qualified maintenance person. Replace the carbon brush using a qualified maintenance person.
Cutting depth is less than that is set.	Sawdust accumulated at the rear of the base.	Shake out sawdust. Consider connecting a vacuum for dust collection.
Blade spins or slips.	Blade is not tightly engaged with the spindle.	Remove the blade, and reassembled it as described in **INSTALL/CHANGE THE BLADE** section.
Blade will not cut a straight line.	Blade is dull. Blade is not mounted properly. Saw is not being guided properly.	Mount a new, sharp blade on the saw. Check that blade is properly mounted. Use an edge guide.
Blade kicks back when beginning a cut..	Blade is not spinning fast enough	Allow the saw blade to reach full speed prior to beginning a cut.

you've got the power

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